Abstract of the Disclosure

This application relates to a hybrid power supply apparatus comprising a fuel cell and an energy storage device for use in off-road electric vehicles, such as lift trucks. The apparatus is a substitute for conventional lead acid batteries and is sized to fit within a conventional lift truck battery receptacle tray. The fuel cell and fuel processor systems are designed to meet the average load requirements of the vehicle, while the batteries and power control hardware are capable of responding to very high instantaneous load demands. The invention has a similar electrical interface as conventional battery systems and does not require vehicle modification. The apparatus is air-cooled to ensure that the hybrid power components operate within a preferred temperature range and to maintain the external surfaces of the apparatus and exhaust gases within safe temperature limits. Apart from vehicular applications, low power hybrid fuel cell products as exemplified by the present invention may also find application in uninterruptable power supply systems, recreational power, off-grid power generation and other analogous applications.